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The Teaching of Silent Reading During the Next Decade

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ABOUT two decades ago, teachers and school officers began to study intensively the problems involved in teaching silent reading. The importance of this type of reading had been emphasized by the findings of such investigators as Huey and Dearborn. The data which they secured revealed significant differences between the habits involved in oral reading and silent reading; they also supplied clear evidence of the greater economy and efficiency of the latter. Such findings justified the conclusion that silent reading is of very great importance both in promoting rapid progress in school work and in meeting the demands of adult life.

During the decade from 1910 to 1920 increasing provision was made in elementary schools for teaching silent reading. For example, the amount of reading material provided was greatly increased, simpler books were selected for use at each grade level, and much emphasis was given in teaching to the development of efficient reading habits. In this connection, the phases of silent reading emphasized most vigorously were rate and comprehension. This may be explained readily by brief reference to three facts. First, the early investigators

had interpreted their findings largely in terms of rate and comprehension. Second, most of the silent reading tests which were prepared early aimed to measure rate or comprehension, or both. Third, courses of study and the professional books on reading that were published discussed these two phases of reading largely to the exclusion of others. It is not surprising, therefore, that the problems of teaching silent reading, as defined a decade ago, related largely to rate and to comprehension.

Several notable results accompanied the early efforts to improve the teaching of silent reading. The first and most obvious result was a much needed change in emphasis from oral reading to silent. In the judgment of many school people, this change has probably been carried too far in some schools. In the second place, the achievement of the pupils in both rate and comprehension, as measured by standardized reading tests, increased steadily for many years at each grade level throughout the elementary school. Furthermore, the amount of free reading done by the pupils also increased rapidly. Various studies made during recent years show that the percentage of children who read independ-

ently increases rapidly in the grades above the first. By the end of the elementary school period practically all pupils who suffer no unusual handicaps engage regularly in reading books, magazines, and newspapers.

Gratifying as these results are, they are far from satisfactory. During the next decade, notable improvement should be made in the breadth and excellence of the instruction given and in the reading interests and habits of children. In this connection the most important problems that teachers face relate to the interpretation and use of what is read. As indicated earlier, the term, comprehend, has been used largely in the past to define the pupil's chief purpose in reading. According to many authorities, to comprehend means to identify the important elements of a passage in their essential relationships. Far too frequently, pupils have been required to comprehend what they read with only sufficient thoroughness to recognize the various elements of meaning in the order in which they appear in a passage. Whereas comprehension at this level is essential, it is inadequate to meet contemporary needs both in and out of school. If reading is to function most effectively in the lives of children and young people, comprehension must be supplemented by interpretation, application, and the modification of personality. In the paragraphs that follow an effort will be made to define briefly the function and value of each of these processes and to make clear some of the teaching responsibilities involved.

The need for greater breadth and depth of interpretation in most reading and study activities has been emphasized repeatedly during recent years. An essential prerequisite, of course, is accurate and precise comprehension of the content of what is read. In addition, it is imperative that the value and relationships of the ideas presented be determined and that their significance and im-

plications be understood. The need for such interpretation is urgent today among children as they study persistent social problems, the facts and implications of science, and the lessons taught by some of the great pieces of literature which are adapted to the age and level of maturity of the reader; it is equally evident among adults as they attempt to make use of current literature in the study of personal and social problems.

In the past, we have often been content if children were able to gather from a passage the important facts included. Striking evidence supporting this statement has been secured through observation and from mimeographed lesson reports which show that class discussions have often been limited to a recall of important points read. Even informal tests and examinations have placed a premium upon the recall of important facts rather than upon their interpretation. Not infrequently standardized silent reading tests have been measures of comprehension only. During the next decade, pupils should devote much more time than in the past to a deliberate study of the meaning and significance of what they read. The facts presented should be associated with related concepts, experiences, or principles, and interpreted in the light of them. There should be much more weighing of values and critical thinking either as one reads or subsequent to the act of reading, preferably the former. As a result, the content of what is read should be more fully appreciated because its value and significance will be more clearly understood.

But it is not sufficient that a pupil merely comprehend and interpret what he reads. If he acquires self-direction and is able to contribute to the solution of social problems, he must learn to apply successfully the ideas gained through reading. There are two levels at which application of what one reads is made. At the first level, the pupil receives much help and guidance in learn-

ing to apply, in the solution of a problem or the completion of a project, the information, understandings, and values secured through the comprehension and interpretation of a passage. The directions or models which are followed in this connection result ultimately in specific patterns of thinking or procedures which are used whenever occasion demands. It is true that pupils do much independent thinking at this level, but they are dependent upon and guided or assisted constantly by the directions of the teacher and by the examples and models presented in their books or texts. One of the essential obligations of the teacher is to suggest ways in which the ideas read may be applied, to set problems or projects for the pupils which will require the application of the important facts, principles, or values that have been acquired, and to present such directions as may be necessary to promote growth in power of application. There is need in this connection of a much greater amount of guidance during supervised study periods in order that pupils may acquire a high level of efficiency in the important types of application to which the material read lends itself.

If the guidance which has been described is effective, pupils should sooner or later acquire the initiative and imagination necessary in novel applications. At this level the pupil applies what he reads in new ways and to new areas of interest. The direct pattern imitation that has been described is no longer adequate. The pupil now analyzes his problem in new or original ways, selects related facts and procedures, and then applies them in the solution of his problem. In this connection, definite progress is made in ability to plan, to discover and to invent. These are qualities demanded so urgently today in social life. The lesson which the foregoing discussion teaches is that guidance in the comprehension and interpretation of

what is read should be supplemented by training in application. It is the function of the teacher to provide models and directions for simple applications until pupils become capable and show initiative in making them. Constant stimulus should then be provided for new and novel uses of what is acquired through reading. It is probable that only the more capable pupils will rise to distinction in making novel applications. It is essential, on the other hand, that all pupils be stimulated and provided with opportunities to cultivate an adventurous temper and the spirit of self direction.

Reading serves its largest function in both child and adult life when it brings about desirable changes in the reader. Such changes are often referred to as modifications of personality. Some of the more obvious values of reading in this connection may be summarized briefly by saying that it broadens and deepens the interests of the reader; it develops ideals and appropriate attitudes; it elevates tastes; it inculcates improved habits of thinking; and it cultivates appreciation for the superior forms of expression used in the better types of literature. This list of values may be extended almost indefinitely. The fact is widely recognized that teachers should plan definitely to help pupils acquire new and compelling interests as they read and develop high ideals and appropriate attitudes which will modify conduct. It is equally important that provision be made for pupils to make use of desirable ways of thinking and of the superior forms of expression exemplified in what they read. In these and other ways, reading may aid materially during the next decade in developing a generation of citizens with stable and enriched personalities.

If the foregoing discussion has achieved its purpose, it should be clear that problems relating to rate and comprehension are no longer the major issues

Finding Problems While Reading

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DODGING problems instead of solving them is so common that few persons can tell which is the more "normal" in human conduct. If averages were computed for all our conduct, dodging would win. If duty were consulted, problem solving would gain the palm. Indeed, the risk of having to solve problems is so vexatious that many of us are deterred from reading any difficult book. Like children, we dodge a difficult issue and enjoy the vacuous lethargy to which our dodging leads. How can we and our children learn and be induced to solve problems while reading?

Everyone makes frequent adjustments of himself to his surroundings. Such adjustments are attempted when there is a sufficiently undesirable lack of balance among things as they are and when a better balance is believed possible and attainable without too great inconvenience. To many persons, this process is irksome, and, when possible, they dodge the issue and let things go unbalanced. To others, maladjustments are more irksome than the process of readjusting, and, when possible, they face the issue and seek a better balance. There are persons, then, who grope along with a minimum of readjustment, and others who exert themselves at every forked-road situation to improve their relation to the world.

Before attempting to teach pupils to solve problems while they read, one must consider the probabilities and possibilities of inducing readjustments in pupils. Consider first the problems which everyone solves. The problems include only those which must be faced square-

ly and which can be solved easily. When, for example, daylight saving begins, everyone in the area affected is forced to readjust a part of his own living. He may not turn his watch ahead, and he may rise and retire as before, according to Old Sol's time. But he cannot go to work an hour late, shop after the stores close, or ride home on the five-fifteen suburban train if he works until six. This kind of problem has the two qualities which lead everyone to a readjustment: it has to be solved, and it is easy.

Consider next the problems which few persons solve. These problems lack acuteness, and they may be difficult. Generations ago, Archimedes was asked to test an allegedly pure gold crown to determine its purity. According to the story told by Vitruvius, Archimedes must have been acutely disturbed by this difficult problem. Carrying this problem, even during his leisure hours, Archimedes is said to have noticed during his bath that certain objects of a given weight displaced more water than others. This observation led to his famous announcement, *Eureka*—I have found it; for gold being heavier than its alloys, displaced less water than its suspected silver alloy. This problem, though important in many human adjustments, was faced and solved relatively late in the history of mankind. Previously, the testimony of an honest goldsmith had to be accepted as sufficient evidence of the purity of the regal crown; later, an additional check could be applied. This problem is the kind that had not become acute for most persons and its difficulties had been too great for those

to whom it had occurred; therefore, it had passed notice or had been given up as impossible of solution.

Parallel situations arise in reading. Everyone meets and solves easy, pressing problems while few persons notice or solve those which are difficult. Among the easiest problems in reading are those in simple narratives. In a familiar narrative, for example, Billy Boy goes in search of his fortune. In such a case, the reader serenely contemplates the problem, for it presses itself upon the reader and it is very easy. There are no difficult steps in its solution. There are only the questions about what Billy Boy's fortune is to be and how he finds it, and all this is provided for the reader who pursues the narrative to the end.

More difficult problems can be found in such passages as the following, which illustrates both difficulty and remoteness to readers who are not deeply interested in the doctrine of Aeolism:

The learned Aeolists maintain the original cause of all things to be wind, from which principle this whole universe was at first produced, and into which it must at last be resolved; that the same breath which had kindled and blew up the flame of nature, should one day blow it out. This is what the *adepti* understand by their *anima mundi*; that is to say, the spirit, or breath, or wind of the world; for, examine the whole system by the particulars of nature, and you will find it not to be disputed. For whether you please to call the *forma informans* of man by the name of *spiritus*, *animus*, *afflatus*, or *anima*; what are all these but several appellations for wind, which is the ruling element in every compound, and into which all resolve upon their corruption.¹

The foregoing passage probably presents no problem to the modern reader, excepting, perhaps, that of its insertion into this discussion. It deals with a topic so remote from the reader that unusual effort is required for consideration of it. History, interest in outworn controversies, knowledge about Swift as

a satirist, and familiarity with early Greek philosophy are probably some of the necessary equipment needed by the reader who, after glancing at the quoted passage, wishes to read the entire allegory. Lacking this equipment, the reader faces no problem.

If, then, pupils are to be trained for problem solving, several precautions must be taken: (1) the problem must arise; (2) its conditions must be studied; (3) the problem must be clearly defined or limited; (4) suggestions or hypotheses must be formulated; (5) the hypotheses must be tested; (6) the best hypothesis must be accepted as a working principle; and (7) this working principle or plan must be applied.

Each of these steps merits detailed consideration, but this article is confined mainly to the first step—finding a problem. After the problem has been found, other procedures must be planned to continue the other steps. Samples of such additional procedures include such exercises as the following: (1) getting meanings and applying them; (2) finding first-hand data; (3) examination of evidence from different points of view, if the problem is controversial; (4) frequent use of more than one author; (5) evaluation of authors' statements; (6) comparing arguments, in cases of conflicting or equivocal data; (7) examination of possible prejudices about a point of view; and (8) applying conclusions.²

Although there are seven steps in problem solving, the process is often short, and one who is solving a problem may observe only the first and last steps. In the advanced activities of getting meanings described previously,³ however, the pupil who discovered the meaning of the word *sardonic* followed the seven steps; but a reader who knew

² Many of these points are illustrated in W. J. Osburn's booklet, *The Understanding of Paragraphs and Total Selections*. (Public School Publishing Company, 1925)

³ *Elementary English Review*, Vol. VIII, September, 1931, p.170.

¹ Jonathan Swift, *Tale of a Tub*.

the meaning of the word would have abbreviated this minor problem by passing directly from the visualization of the word to the seventh step. The pupil attempted thus to shorten the process by using her first unsuccessful guess, as did the pupil who announced the premature solution of the arithmetical problem.⁴ These instances indicate that there are degrees of facility in problem solving and that improvements can be made toward the automatization of the seven steps. Each step presents its own subordinate problem for both pupil and teacher.

The first requisite in problem solving is the problem. What are the sources of the problems which are solved by reading? This question leads to a consideration of the reader as well as to what is to be read. A problem that is to be attacked arises from any maladjustment about which the reader is sufficiently motivated to seek a remedy. A survey of motives and the directing of motives is, therefore, in order. The types of motives which drive a reader into action are usually the following: (1) hedonic—leading to happiness; (2) idealistic—leading to the satisfaction of love, honor, and other ideals; (3) social—leading to the satisfaction of social interests; (4) religious—leading to the satisfaction of religious interests; (5) economic—leading toward better economic conditions; (6) compensatory—leading toward relief from real or fancied thwarting or injury; (7) ambitious—leading toward the satisfaction of the desire for power; (8) superstitious—leading toward the satisfaction or eradication of ill-founded beliefs; and (9) pathological—leading toward the satisfaction or eradication of a "fixed idea."⁵ All types of motive are fundamentally hedonic, as all impel toward happiness or satisfaction. The reader often has a multiplex motive in which many types

are represented. The teacher must find means to appeal to one or more of these motives, if the best problem solving is to follow.

There is a strong tendency in most persons to classify motives as high or low. Teachers should classify them also as near and remote.⁶ Owing to one's emotional attitude, stage of development, or status in life, the adoption of a given motive may be well nigh impossible. A problem may, therefore, exist for a teacher, but it may not be a similar problem for the pupil. The teacher may be motivated to have a pupil adapt an idealistic motive of love when the pupil's motives are temporarily compensatory and underlain by anger or hatred. Another problem nearer to the pupil's motive must then be presented to him, or a bridge built to the remote problem which the teacher desires to present. The motive to which the teacher appeals should be defensible, and it should be as "high" as the pupils' abilities and maturity will permit.

One of the chief defects in teaching reading has been the failure to bridge the distance from the pupil to the problem presented in what has been read. Hosis, in *Empirical Studies in School Reading*⁷ reported in detail the means used by teachers to reduce the distance from the pupil to the problems presented in certain poems. By these "positive" means, poems which may be called remote to pupils were brought within an easy range. Other poems which are usually near to pupils were presented in what was intended to be a "negative" manner and were thus made remote. From Hosis's study it appears that the reader's attitude toward what is read is as important as a reading vocabulary.

From Hosis's account of the teaching of Browning's "How They Brought the Good News from Ghent to Aix"⁸ it will be seen that in the negative approach

4 Ibid., October, 1931, p. 192.

5 Francis F. Powers and Willis L. Uhl, *Psychological Principles of Education* (D. Appleton-Century Company, 1933) pp. 134-140.

6 Ibid., pp. 348-351.

7 Teacher's College, Columbia University, *Contributions to Education*, No. 114, 1921.

8 Ibid., pp. 149-150, 165-166.

Relation of Left-Handedness to Reversals in Reading

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ANOTHER age-old fallacy, that left-handed children tend to make more reversals in reading than right-handed children, has been shattered as a result of a recent investigation completed by the writer.

A study was made of the reactions of 136 matched pairs of left-handed and right-handed pupils to a series of tests involving among other things a number of reading test situations. The purpose of the latter tests was distinctly to determine the tendency of each handedness group to make reversals in reading.

The subjects used in this investigation were 136 pairs of matched left-handed and right-handed pupils in Grades I, II, and III from twelve elementary schools of Detroit and Highland Park. The children were matched extremely close as to age, reading ability, and mental rating, and were exactly matched as to sex, grade, section of grade, classroom, teacher of reading, and opposite handedness.

The technique used in matching the pairs will not be discussed in this article except to say that a series of lateral dominance tests was given to each candidate and only those were used who were nearly pure handedness types. One of the interesting angles of the matching of the pairs was to find that the teacher's judgment of the handedness of the children was 99.3 per cent correct.

Four individual tests and one group test were devised for the purpose of determining the nature and extent to which each handedness group made reversals in reading. The individual tests consisted of naming lower case and capital letters, oral recognition of words,

reading sentences orally, and reading a paragraph of connected discourse orally. These tests represent progressive reading situations.

The individual test in naming letters consisted of thirty-two small letters and thirty-two capital letters arranged in mixed order with greater frequency being given to those letters which are most frequently confused. The letters appearing in the confusion groups are: *b, d, p, q; n, u; w, m; and W, M.* The pupils were asked to point to each letter and name it. All errors and letters missed were recorded.

The exact nature of the test can be seen from the following sample:

INDIVIDUAL TEST 3: NAMING OF LETTERS

b	w	e	m	p	z	y	s
u	b	w	p	n	f	m	d
F	B	D	R	S	U	E	Q
G	W	C	N	V	M	I	Z

If a *b* was called a *d*, a *p*, or a *q*, it was designated as a *letter reversal*.

The next test given was one of oral word recognition. This test was designed to determine the nature and extent to which unrelated words would be reversed by the two groups. The test consisted of four cards of twenty words each or eighty words in all. Each word was capable of being completely reversed. For example, among the words were: "but" which when reversed would become "tub," "rail" which would become "liar" upon reversal, and "tip" which would become "pit." When the sequence of the letters in each word was completely reversed, as shown by the examples, the type of reversal was designated as a *total reversal*. If, however,

"but" had been called "put," and "pit" had been called "bit" it would designated as a *letter reversal* because only one letter in the word had been reversed. Suppose that the word "spin" had been called "snip," however, the error would be neither a total reversal nor a letter reversal because it is neither a complete reversal of the sequence of the letters nor is it a change in the orientation of a single letter. The term *partial reversal* was therefore coined to designate the transposition of only a part or unit of a word.

A line from each of the four cards is reproduced here to show the nature of the words which were used in this test.

INDIVIDUAL TEST 4: ORAL WORD
RECOGNITION

but	time	tip	wets
den	snap	mid	mood
mar	stab	mug	don
era	bus	drab	edit

A third test was that of reading six very easy sentences containing thirty-six words in all, sixteen of which were capable of being reversed.

The entire test is reproduced here:

INDIVIDUAL TEST 6: ORAL SENTENCE
READING

The cat was black.
I saw a pig.
The big rat was not in the trap.
He had ten cents.
The dog saw the rat in the tub.
The boy had a saw on the box.

Another type of reversal was tabulated in this and the succeeding test. When a group of words were pronounced correctly but the order in which they were read was changed, the error was designated as a *reversal of the sequence of words*. For example if the words, "He had only two marbles" were read "He only had two marbles" the order of the two words "had" and "only" would be reversed.

A fourth individual test was one which consisted of a paragraph to be read orally by the pupil. The test was designed to determine the nature and extent to which pupils in the early elementary grades make reversals while reading connected discourse. About one-fourth of the words in the paragraph can be reversed.

A few sentences from the test are given here:

INDIVIDUAL TEST 5: ORAL PARAGRAPH
READING

Ned had a dog which he called Sport. . . Ned and Sport were great pals and often they would play in the straw pile which was in the corner of the yard. . . In one day the dog was able to catch ten rats. . . the reward was a part of a pan of bones.

Words such as "dog," "pals," "straw," "yard," "ten" and "rats" among others are reversible.

A fifth test was given in a group situation. This test consisted of thirty pictures each of which was followed by four words. One of the four words was the name of the object pictured. The other three words were confusion words and many of them were total, partial, or letter reversals of the correct word. The child was asked in this test to underline "the word that tells what the picture is."

On all five tests which have been discussed the left-handed pupils made fewer reversals than the right-handed pupils. The left-handed pupils made a total of 711 reversals on these five tests and the right-handed pupils made 757. When the critical ratios for the two groups are determined, however, there is found to be no significant difference between the two groups on any of the tests.

The 711 reversals made by the left-handed children on the five tests were distributed as follows: 201 were total reversals; 132 were partial reversals; 376 were letter reversals; and 2 were

Teacher Analysis of Reading Disabilities*

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WATCH your *p*'s and *q*'s!" such has been the stern admonition of teachers in the past. The *symptoms* of certain reading disabilities were recognized, but the *causes* remained unidentified. In the time that has elapsed since the country school-master coerced his pupils into minding their *p*'s and *q*'s, many conflicting hypotheses and theories have been formulated to explain these phenomena of reading. Unfortunately, the weird and sometimes far-fetched explanations have left the classroom teacher without enlightenment and without a solution to her age-old problem.

The problems of cancer and common cold have not yet been solved, but they are yielding to persistent research workers. A diversity of laboratory technicians has been at work on such fundamental problems. In like manner, contributions to the solutions of many of our educational problems have been and will continue to be made by workers in fields other than education and psychology. Engineers, ophthalmologists, pediatricians, anatomists, bio-chemists, and others have made heavy inroads on the problems of the pedagogue. An intelligent educational leadership should integrate and apply the findings.

In the Shaker Heights Reading Clinic, we have been investigating the preventative and remedial aspects of reading. The program is two-fold: first, the clinical identification of the child who may encounter difficulty with reading; second, the clinical analysis of reading disabilities. In order to make the analyses, diagnostic instruments were developed,

which could be used for kindergarten or upper grade children. Remedial materials, where needed, are being constructed to parallel the analyses.

Four fundamental policies were followed for the development of the techniques: First, the materials should be administered and the responses given practicable interpretation by the classroom teacher. Without intelligent understanding of the problem by the classroom teacher, the results possible of attainment will be greatly reduced in effectiveness. Second, a serious reading disability can not be analyzed by tests used for the so-called "diagnosis" of the reading abilities of *normal* children. It is unfortunate that any group reading test designed for normal classroom situations should ever have been designated as "diagnostic." Third, the tests should possess a high degree of validity and reliability. In brief, the size of type and the leading in the tests should approximate that used in the books with which the child is confronted in his daily reading. Otherwise, difficulties are analyzed for situations which are quite different from the real ones. This is especially significant when viewed in the light of visual defects which often characterize the non-reader or the retarded reader. Another aspect of validity is that of using characters, such as letters, phrases, and sounds which the child actually encounters during the initial learning-to-read period. Fourth, the teacher should be provided with techniques and devices which provide unrefined indices to the actual visual, auditory, or psycho-

*Note: The development of this material was made possible by the cooperation of the Keystone View Company, Meadville, Pa.

logical handicaps of the pre-school child or the disabled learner.

In summary, a program has been evolved to permit the *teacher* analysis of reading disabilities. Too often the school administrator or the parent has held the teacher responsible for the reading achievement of a child who has not been physiologically ready to read. As a result much wrong has been done to both teacher and child. Too frequently have educators overlooked the fact that social pressure in the average community creates a situation where the normal child would read if it were in his power to do so. Educators, not parents, are primarily responsible for the early emphasis on reading.

At least six major factors contribute to reading success; namely, maturation, vision, hearing, kinaesthetic imagery, language, and emotional reactions. Although the factor of maturation has gone by default in the past, most progressive thinkers are giving it due consideration in curriculum construction. The implications are manifold. In this respect, our whole primary and secondary curriculum needs to be subjected to critical surveillance, for we have been taking years of the learners' time to teach and to maintain skills which should probably be introduced later and thereby taught in a much shorter unit of time.

The factor of maturation—or better still, immaturity — might help to explain why more boys than girls are found to have reading disabilities. The late Baldwin of Iowa and Todd of Brush Foundation in Cleveland have found that adolescent girls were in advance of adolescent boys for certain anatomical maturations. When measures are sufficiently refined, it is quite probable that we may find kindergarten girls in advance of the same aged boys for those physiological maturations which govern readiness to read. Already many leading doctors and educators maintain that a child should not be *required* to

read until he is about nine years of age. By the same token some children might be ready to read before six years of age. It is a truism to state that no pedagogue can teach a child to read before he is ready.

The concept of maturation in relation to reading embraces physiological readiness in the larger sense. Hence, general intelligence should be measured as an incidental factor, for a test of general intelligence can be of no final value when the specific maturation levels directly related to reading are in question. We have, therefore, constructed tests which provide indices to *specific reading maturities*.

Six tests, involving visual functions, have been constructed in order to secure an index to this phase of maturity for kindergarten and first grade children and to analyze pedagogically the reading disabilities of upper grade pupils. The first three use the technique of identifying unlike word, phonetic element, phrase, and sentence forms and do not require a knowledge of reading. The fifth test is one for visual analysis of words; the sixth, for letter recognition. Five auditory tests have proved to be valuable for prognosis on kindergarten level and for analysis of disabilities on other grade levels: auditory span, auditory-visual span, phonic power, auditory discrimination, and auditory acuity.

The second factor, vision, has not been sufficiently emphasized by either doctors or educators. Maturity, as well as identifiable defects, has been discussed by investigators of physiological optics. It is probably not amiss to say at this point that all teachers of reading should be familiar with available information on eye hygiene. There is not yet sufficient research on the effect of intensive reading during the early years of the child upon the development of the eyes, but educators should at least be sensitive to the possible damage. Considerable research has been done with regard

to certain environmental factors, such as lighting. Sight meters are now available for the convenient measurement of light intensity on the desks in the classroom. A survey of the lighting conditions under which the children in some parts of classrooms work has seldom failed to reveal highly unhygienic conditions.

In the past, schools have been able to detect only a few of the most serious eye defects. Simple and convenient tests were not available for the teacher or school physician to analyze binocular (two-eyed) vision at reading distance (approximately 13 to 16 inches). The usual procedure has been to have the pupil stand 20 feet from a Snellen chart and interpret what he saw with each eye independently. Unfortunately, this procedure will detect fewer than 50 per cent of the cases with visual disabilities at reading distance, for normal children read with two eyes and most of the school reading is done at the near point (approximately 13-16 inches).

In co-operation with the medical department, tests have been developed for the detection of visual defects by the classroom teacher. Tests of the following functions have proved to be of inestimable value: Visual super-imposition (fusion of two images into one), visual acuity (keenness of vision), eye muscle imbalance (horizontal and vertical), stereopsis (depth perception), hyperopia (far-sightedness), myopia (near sightedness), astigmatism, and eye regressions. All of these tests can be made with an inexpensive telebinocular (a modification of the stereoscope). With the exception of the tests for hyperopia, myopia, and astigmatism, binocular (two-eyed) vision is necessary to pass them. A knowledge of optics is not required by the classroom teacher; she needs only to follow the simple directions and if the child cannot pass the tests, he should be referred to the family eye-doctor for a competent examination.

It is imperative that a teacher should not "drive" a child into reading until she has made an attempt to analyze or define the problem. Our records show that almost 90 per cent of the severe reading cases should have medical attention before receiving pedagogical help. In such instances, tutoring aggravates the problem and many times an apparent gain in reading achievement is due to maturation rather than to the pedagogical methods used.

The need for these particular tests was determined by a careful examination of doctor's reports of cases referred by our clinic. A typical example of a beginning pupil is that of a six year old who could make no progress in reading until he was fitted with glasses. The teacher found the difficulty with the aid of the above enumerated tests. The doctor's report came back as follows: "Norman's vision was just 1/3 normal in each eye. He has a mixed astigmatism, being both near-sighted and far-sighted in each eye. With the proper glasses, we were able to obtain better than normal vision. I believe that you will find that this will make a marked difference in the quality of his school work." Needless to say, considerable improvement was noted by the teacher within four weeks' time. Norman is now one of the best readers in his class.

The more difficult cases are those which are permitted to carry their reading disability beyond first or second grade. Norman's case is of one type; several other types have been identified by means of these procedures. Typical visual characteristics of a child who has reversal difficulties (i. e. reads "saw" for "was," "lap" for "pal," "bone" for "done," etc.) are an eye-muscle imbalance coupled with near-sighted or far-sighted astigmatism. For such cases, not more reading but glasses and eye training exercises often given at home under the direction of the doctor, have been necessary before giving pedagogical help.

In all cases where visual handicaps have existed, the doctors have been most co-operative with the school and the home. This constant supervision by the doctor and the teacher is vital to such a program, especially for pupils who should not be required to read for a period of a semester or more.

Auditory imagery as a re-enforcement to visual imagery is a third important factor in reading. The five tests used in our clinic are designed for the analysis of the pupils' memory span, ability to discriminate between and fuse sounds, and keenness of hearing. It is a well established fact that a test of acuity does not provide an adequate index to the child's auditory capacities and abilities. Phonic power (or the ability to fuse sounds into words), auditory discrimination (the ability to discriminate between sounds), and auditory span (ability to repeat correctly a succession of sounds) contribute directly to reading ability in the primary grades. The educational implications of the foregoing statement are given in the *Twenty-fourth Yearbook of the National Society for Study of Education* (p. 87). The authors declare that children respond differently to phonetic training, some requiring very little, if any formal training to gain independence in word recognition, while others, even after considerable teaching, are still helpless.

Both in spelling and in reading, kinaesthetic imagery—the fourth factor—is recognized as a desirable reinforcement to auditory and visual imagery. It is difficult to isolate certain phases of the kinaesthetic imagery problem from auditory imagery. For example, the test of auditory discrimination also provides an index to the child's ability to pronounce words correctly. Although the data are not complete, manuscript writing is probably less confusing to first grade children than cursive writing be-

cause the characters involved are more nearly alike. A thorough investigation of the possibilities of postponing handwriting, especially for immature children, until after the first grade would be a worthy enterprise.

The fifth factor — language — is a well-known item contributing to certain reading difficulties. We have encountered a few cases where the writing of Hebrew proved to be an interference factor. Problems of articulation and enunciation arise oftentimes when another language is spoken in the home.

Undesirable emotional reactions,—the sixth factor — are usually correlates of reading disabilities, but the relationship is more nearly symptomatic than causal. Too few cases can be analyzed on this basis to make it a significant factor in identifying the causes of the reading disabilities which affect about 10% of our school population. We have found many of these emotional disturbances to be normal reactions to a situation which the child cannot understand. The stressing of phonics for a child who can not respond to high frequency sounds creates a situation which he cannot define. In like manner, a pupil's efforts are fruitless if he has a visual defect. Difficulties on a perceptual level are also beyond self-help.

Specific tests of eyedness and handedness are given as a matter of routine. Hand preference has proved to be specialized; therefore, we require the child to use the right hand for writing only when there is sufficient evidence from the tests which involve the items in question. Ocular dominance is of minor significance.

Our research efforts are now being directed toward the study of the relation between monocular regressions and reading reversals. *No one theory can be expected to account for all types of reading disabilities.*

Vocabulary Instruction and Reading

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PROBLEMS of developing new word meanings challenge the attention of every teacher in the intermediate grades. Each new field of learning — geography, history, science — introduces the child to many words he has never seen or heard before. Since reading is one of the chief learning activities in the intermediate grade subjects, textbooks and other reading materials require children to understand a large number of unfamiliar meanings.

How may the child's vocabulary in a given field be most effectively expanded? One of the most important problems suggested by this question relates to general teaching procedures. Will the pupil acquire the meanings of new words more readily through wide reading uninterrupted by vocabulary study? Or will he gain greater understanding of word meanings through direct teaching of the meanings of unfamiliar words, coupled with the reading of a more limited body of materials?

In the Elementary School of the University of Chicago, during the years 1931-1933, a series of five vocabulary studies was undertaken. The purpose of these studies was to evaluate the two theories of vocabulary growth just described with special reference to their influence upon children's silent and oral reading. The investigation was carried on in connection with the teaching of history in the fourth grade. It was believed that the teaching situation chosen was illustrative of many which are to be found in grades four, five, and six.

Before comparing the two teaching methods, the investigators studied the

children's ability to identify their own vocabulary difficulties in reading. In a test which measured children's comprehension of a history selection and, at the same time, their ability to identify words in the selection which they did not understand, valuable information was secured. Although some of the more capable children in a group may be able frequently to recognize their vocabulary difficulties, children whose experiences have been notably limited or whose ability in reading is average or less are seldom able to identify their vocabulary needs.

The experimental comparisons of the two teaching procedures indicate that direct instruction in the meaning and use of unfamiliar words is superior in several ways to wide, independent reading without such instruction.

First, the child who has been given direct instruction in word meanings is able to understand a much larger number of new words than the child who has read widely without, however, having received such instruction. The additional contacts with new words through wide and independent reading fail to produce the same degree of vocabulary growth as is produced by more limited reading together with instruction in the meanings of important new words.

Second, direct instruction in the meaning and use of new words enables the child to read more effectively materials in which the new words occur. Not only does the child understand the words themselves more clearly in the course of his reading, but his general

comprehension also is greatly improved. By gaining some acquaintance with new words before he encounters them in his reading, the child is better able to grasp their relation to the context. Regressive movements and fixations are reduced in number, and speed of reading is increased. Errors in oral reading decrease.

Third, incidental meaningful use of a new word by the teacher is not enough to establish a new meaning unless, in addition, the teacher (a) draws pupils' attention consciously to the word, and (b) gives them opportunity to gain positive control of the word and its meaning. The studies show that children need to learn to recognize the appearance of the word and to use it meaningfully themselves in speech and writing if they are to add the word to their vocabularies. Undue emphasis has probably been placed upon the separation of the child's speaking, writing, and reading vocabularies. It seems clear that, for purposes of study in geography, history, or science, important words should find a place in all three vocabularies.

Fourth, direct instruction in the meaning and use of new words gives the child greater fluency in oral discussion of his learnings. In the intermediate grades, silent reading for study frequently leads to classroom discussion or to conversation between teacher and child. Fluency in this respect is highly desirable since it aids the teacher, as well as the child, to evaluate study products.

Fifth, children are able to write with greater facility about their ideas if they have had suitable instruction in the meaning and use of new words. Inasmuch as written expression is another useful means of determining what children have learned, facility in writing, or composition, is also of great value.

Sixth, direct instruction in the meaning and use of unfamiliar words helps to

sustain the child's interest in a topic. It is entirely probable that the lack of interest which children sometimes manifest may be traced to their inability to understand the vocabulary of a topic or subject.

Throughout the discussion, the phrase "instruction in the meaning and use of words" has been used to include all the elements in a complex teaching process. Besides demonstrating the superiority of this technique, the investigation revealed many principles underlying the planning of vocabulary teaching.

When should instruction be given in the meaning and use of new words? Children should receive such instruction immediately before the study period in which the meanings will be needed. The time given to the discussion of new word meanings should be drawn from the history, geography, or science period involved. Developing new meanings in any subject is an integral part of the teaching of that subject. The artificiality of a separate word-study period, such as has sometimes been introduced in the past, should be avoided. Although it is best not to set apart a special time for this purpose, the teacher will do well to make definite provision in her own thinking and planning for the study of important new word meanings.

How much time ought to be devoted to instruction in the meaning and use of words? The experiments seemed to indicate that the time spent in such instruction might vary considerably, depending on the demands of the reading materials later to be studied and the maturity of the children. If the available reading materials made it possible, a desirable apportionment of time for fourth grade pupils would be one third of the total study period. Since many textbooks embody a large number of vocabulary difficulties within even so short a unit as a paragraph, sometimes two or three periods given to vocabulary will

need to precede the children's reading.

How should the words for study be selected? Since only a limited number of meanings can be economically introduced at one time, the teacher will need to select for study the most important words relating to a topic. In this connection she will need to examine the reading materials carefully. Materials which require the child to understand a very large number of new meanings—for example, more than twenty per page of reading matter—will probably be too difficult for all except the most able children. The selections read by the least able children in the class should probably not introduce more than three or four new meanings.

To whom should instruction in the meaning and use of new words be given? The answer to this question is, of course, to the children who need it. Children's needs will vary. Some of the slowest pupils will need help with words that are familiar to others in the class. If the children have had no experience at all with a topic to be studied, the teacher may perhaps group them according to the breadth of their general experiences as revealed on an intelligence test. Instruction should differ in method as well as in content for pupils of superior ability and for weak pupils. More mature pupils need to be taught how to help themselves through the use of glossaries, reference books, and other sources. Handicapped children will perhaps need help in the recognition of words they already understand. The teacher needs to be constantly in touch with individual needs.

How should an unfamiliar word be made meaningful to children? A thorough discussion of this question would occupy many pages. In general, however, it may be said that the meaning should be conveyed to the children in a variety of ways, and that each child should be given opportunity to associate the appearance and pronunciation

of the word with its meaning. The atmosphere of the classroom should be as informal as is possible without confusion. After having explained the meaning of the word to the children through the use of pictures or other devices, the teacher will perhaps use the new word in illustrative sentences, at the same time placing her hand beneath the word on the blackboard. She will enunciate the word distinctly and will draw the children's attention to difficult parts of the word which affect their recognition of it in reading. Perhaps the children will go to the board to "frame" with their hands the particular word which the teacher uses in a sentence. They may even pronounce it together.

When the teacher has thoroughly introduced the meaning, appearance, and pronunciation of the word, it is her function next to guide and correct the children's discussion of the new meaning. Adroit questions will sometimes start a discussion of a topic which will provide opportunities for many children to use a new word. She may even ask the children to write about the topic, and to use as many of the new words as they can in telling about it.

Throughout the time devoted to building new meanings for words, the teacher will strive to accomplish two purposes. First, she will see to it that the meaning, appearance, and pronunciation of the word are constantly associated with one another in the child's thinking. Second, she will endeavor constantly to relate the new meaning to the general topic of the study period. In so doing she will help the children to expand their vocabularies without allowing the learning situation to become stilted or artificial.

How should new word meanings be related to the children's reading? Children presumably exercise their knowledge of all word meanings whenever they read silently. Experience shows, however, that unless the child reads

A Vocabulary for Corrective Reading

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THE older child with severe reading difficulty will not read the babyish material found in primers and first readers and cannot read the books suited to children of his age. It is usually necessary to build simpler material or to write in a less difficult vocabulary the more mature books. In order to provide the careful development of sight vocabulary and the constant practice required for successful corrective work in reading, a narrow vocabulary of well chosen words is necessary.

The list for corrective reading should contain only words which have a high frequency in both adult and child usage. The standard word lists are not satisfactory for the purpose. Gates' Reading Vocabulary for Primary Grades is too long and contains a great many childish words which appear so infrequently in adult literature that the learning is uneconomical. Ogden's Basic English is well chosen and is about the right length but it contains a large proportion of words not used by children. It seems desirable not to complicate the beginning corrective work by including words not in the child's speaking vocabulary.

It is difficult to defend the exclusion of many words on any abridged list unless it is based on actual frequency studies. The Horn and Thorndike lists are probably indicative of the frequency of adult usage but few lists have appeared establishing the relative frequency of child usage of words. The Kindergarten Union list was made from the vocabularies of children much younger than the typical child with severe reading difficulty. The Buckingham-Dolch list which attempts to establish age levels of

meanings of words is unfortunately not available for general use. Recently Fitzgerald published a list of words used in the out-of-school writing vocabularies of children in grades four, five, and six. While the list has certain provincialities due to the Middle Western sampling, it provides the best available check on frequency of usage of words by children of the average age of those with reading disability.

The following vocabulary was derived from the Faucett-Maki combination of the Horn and Thorndike lists by taking all the words with a rating below 20 and checking them for children's usage by the Fitzgerald list. Words with a frequency below 15 on the Fitzgerald list were omitted. Thus a list of 656 words was obtained.

It is necessary to decide which of these words should be presented to the child first. The list was divided into four levels by giving each word a new rating to insure common child usage of words in the lowest level of the list. This rating was made by increasing the Faucett-Maki rating by 3 when the Fitzgerald frequency was below 25, increasing it by 2 when the frequency was from 25 to 49 inclusive, and by 1 when the frequency was between 50 and 74. The Faucett-Maki rating was unchanged when the Fitzgerald frequency was 75 and above. It was found that approximately equal division of the list into four levels was made when words with a rating of 1 to 4 were put into level one, 5 to 9 into level two, 10 to 16 into level 3, and 17 and above into level four. The number before each word indicates the level to which it was assigned.

1 a	1 been	3 church	2 each	2 friend	1 him	4 listen
1 about	1 before	2 city	4 ear	1 from	1 his	1 little
3 able	4 began	3 class	2 early	3 front	2 hold	2 live
2 above	4 behind	4 clean	4 east	4 fruit	1 home	1 long
4 across	2 being	3 clear	2 eat	2 full	2 hope	1 look
4 act	2 believe	2 close	4 egg	4 fun	3 horse	4 lose
3 add	2 best	4 clothes	3 eight		3 hot	3 lost
3 address	2 better	3 coat	3 either	3 game	2 hour	3 lot
4 afraid	2 between	2 cold	3 else	4 garden	2 house	1 love
1 after	2 big	4 college	2 end	2 gave	1 how	3 low
3 afternoon	4 bill	3 color	2 enough	1 get	1 hundred	
1 again	3 bit	1 come	2 even	2 girl		2 made
2 against	3 black	2 company	3 evening	1 give	1 I	3 mail
3 age	4 blow	4 cook	2 ever	2 glad	4 idea	1 make
4 air	3 blue	4 copy	3 every	4 glass	1 if	1 man
1 all	3 board	3 cost	3 everything	1 go	1 in	1 many
2 almost	4 body	1 could	3 except	4 gold	4 instead	3 mark
2 alone	1 book	2 country	3 expect	3 gone	3 interest	2 matter
2 along	2 both	2 course	2 eye	1 good	1 into	1 may
3 already	3 box	2 cover		2 got	4 iron	1 me
1 also	1 boy	4 cross	3 face	4 grade	1 is	2 mean
3 although	4 break	4 cry	2 fair	4 gray	1 it	4 measure
2 always	4 bright	2 cut	2 fall	1 great	1 its	2 meet
2 am	2 bring		3 family	4 green		2 men
3 among	4 broken		2 far	3 ground	1 just	4 middle
4 amount	3 brother	3 dance	3 farm	3 grow		2 might
1 an	3 brought	4 dark	4 fast	3 guess	2 keep	3 mile
1 and	4 brown	4 daughter	4 fat		4 kept	4 milk
2 another	4 build	1 day	2 father	1 had	4 kill	2 mind
2 answer	4 burn	4 dead	2 feel	3 hair	1 kind	3 mine
1 any	3 business	2 dear	3 feet	2 half	3 knew	3 minute
3 anything	3 busy	4 decide	4 felt	1 hand	1 know	3 miss
1 are	1 but	4 deep	2 few	4 hang		4 mistake
3 arm	2 buy	1 did	3 field	2 happy	4 lady	2 money
2 around	1 by	3 die	4 fight	3 happen	2 land	2 month
4 art		3 different	3 fill	2 hard	2 large	1 more
1 as	1 call	3 dinner	1 find	4 hardly	1 last	2 morning
2 ask	2 came	1 do	2 fine	1 has	2 late	2 most
1 at	1 can	4 doctor	3 finish	4 hat	4 laugh	2 mother
4 ate	4 can't	2 does	3 fire	4 hate	4 lay	4 mountain
2 away	3 car	4 dog	1 first	1 have	4 lead	3 move
	3 card	4 dollar	3 fit	1 he	2 learn	3 Mr.
4 baby	2 care	2 done	2 five	2 head	3 least	3 Mrs.
1 back	2 carry	3 don't	4 fix	4 health	2 leave	1 much
2 bad	3 case	3 door	4 floor	1 hear	2 left	1 must
4 ball	4 catch	1 down	3 flower	3 heard	4 leg	3 music
3 bank	4 caught	3 draw	4 fly	3 heart	1 let	1 my
1 be	3 cause	2 dress	4 foot	4 held	2 letter	3 myself
3 bear	4 cent	4 drink	1 for	2 help	4 lie	
4 beat	2 certain	4 drive	3 forget	1 her	2 life	2 name
3 beautiful	2 change	4 drop	2 found	1 here	2 light	2 near
2 because	4 child	4 dry	2 four	2 high	1 like	2 need
2 bed	3 children	2 during	3 free	4 hill	2 line	2 never

1 new	3 person	1 right	2 since	2 summer	3 top	4 wet
4 news	4 pick	4 ring	4 sing	4 sun	3 touch	1 what
2 next	3 picture	4 river	3 sister	4 supper	2 town	1 when
3 nice	3 piece	3 road	3 sit	3 suppose	3 train	2 where
1 night	1 place	4 roll	2 six	2 sure	3 tree	3 whether
4 nine	3 plan	2 room	3 size	3 surprise	3 trip	1 which
1 no	3 plant	4 round	3 sleep	3 sweet	3 trouble	2 while
4 north	2 play	4 rule	4 slow		2 true	2 white
1 not	2 please	2 run	2 small	3 table	4 trust	1 who
3 note	2 point		3 snow	1 take	2 try	2 whole
2 nothing	3 poor	4 sad	1 so	2 talk	2 turn	4 whom
1 now	3 possible	4 safe	4 sold	3 teach	1 two	4 whose
2 number	4 pound	1 said	1 some	1 tell		2 why
	4 practice	4 sale	2 something	2 ten	2 under	4 wide
4 o'clock	2 present	1 same	3 sometime	1 than	3 understand	4 wife
1 of	2 pretty	4 sat	4 son	2 thank	2 until	1 will
2 off	3 price	3 save	4 song	1 that	1 up	4 win
3 office	4 print	2 saw	1 soon	1 the	2 upon	4 wind
3 often	4 public	1 say	4 sort	1 their	1 us	3 winter
3 oh	4 pull	2 school	3 sound	1 them	1 use	2 wish
1 old	1 put	4 sea	4 south	1 then	4 usual	1 with
1 on		4 season	3 speak	1 there	1 very	2 without
2 once	4 quick	4 seat	4 spend	1 these	3 visit	3 woman
1 one	4 quiet	2 second	3 spring	1 they		3 wonder
1 only	3 quite	1 see	4 stamp	1 thing	3 wait	4 wood
2 open		2 seem	2 stand	1 think	3 walk	2 word
1 or	3 rain	3 seen	2 start	3 third	4 wall	1 work
1 order	3 raise	3 sell	2 state	1 this	2 want	2 world
1 other	4 ran	2 send	4 station	2 those	3 war	1 would
4 ought	4 rather	2 sent	2 stay	2 though	3 warm	2 write
1 our	2 reach	2 set	4 step	2 thought	1 was	3 written
1 out	2 read	4 seven	2 still	3 thousand	4 wash	4 wrong
1 over	3 ready	3 several	4 stone	1 three	3 watch	4 wrote
2 own	3 real	1 shall	2 stop	2 through	3 water	
	4 really	1 she	3 store	4 till	1 way	4 yard
3 page	3 reason	3 ship	3 story	1 time	1 we	1 year
4 paid	2 receive	4 shoe	4 straight	4 tire	3 wear	4 yellow
2 paper	3 red	2 short	4 strange	1 to	3 weather	3 yes
1 part	4 regard	1 should	3 street	2 today	2 week	3 yesterday
3 party	3 remain	1 show	3 strong	2 together	4 weigh	2 yet
2 pass	2 remember	3 sick	3 study	3 told	1 well	1 you
3 past	2 rest	3 side	4 subject	3 tomorrow	2 went	2 young
2 pay	4 rich	3 sign	1 such	1 too	1 were	1 your
1 people	3 ride	3 silk	4 suit	3 took	4 west	4 yourself

Experience in the use of abridged word lists will lead the teacher of corrective reading to follow these suggestions:

1. Specialized subject matter nouns must be added in the writing of stories on any level. All lessons should have

a note attached, such as, "Written in levels one and two with the addition of the following words . . ."

2. Variety of presentation and knowledge of progress seem to be the best methods of motivating the acquiring of the initial vocabulary. Short flash card

drills, lantern slides, blackboard work, mechanical devices, and various forms of work book exercises are useful. The large number of "th" words in the first level will cause confusion unless they are introduced gradually.

3. Whether sight methods or sounding methods are to be emphasized can be determined by the nature of the child's faulty habits. If he does word-by-word reading and tends to over-analyze words, word recognition methods should be used. If he has developed habits of random guessing without regard to the form of the word, analytic methods are desirable. Often it is necessary to use the method of enriching word meanings by use of the word in different situations while the child looks at the word. Confusion induced by previous failure leads many children to lose their feeling of familiarity with any word when it is introduced in reading, even though the word is one which they use commonly in speech.

4. Provision for immediate transfer of sight word drill should be made by following such drill by phrase, sentence, and story reading.

5. Forms of words made by adding common suffixes such as *s*, *ing*, *ed*, *er*, *est*, and *ly*, may be included in the stories written for corrective reading when they have been taught in the word drill. The transfer methods described by Courtis, Miller, and Watters in their *Creative Teaching in the Field of Spelling* will be helpful in teaching the recognition of these new forms. With the exception of words ending in *y*, in silent *e*, and certain words which double the final consonant in adding a suffix, most

of the derived forms of the words follow regular patterns. Irregular forms which have a high frequency in usage are taught as separate words in this list.

6. Uncommon meanings of words, indirect word order, long sentences, and diminutives and "sweetening" are to be avoided when writing for older children with reading difficulty.

7. Corrective work is more successful when many stories or whole books are built around a single interest center, especially if the work is to be supplemented by picture and object collections, dramatization, field trips, and other forms of motivation.

8. Plans for small group work, as nearly self-administering as possible, will be necessary if materials built for corrective work are to be used in the regular classroom.

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VOCABULARY INSTRUCTION AND READING

(Continued from page 105)

with an immediate purpose, he may neglect important meanings in a selection.

One of the most deplorable practices designed to establish vocabulary mastery is that of asking children a multitude of insignificant questions upon their reading. Although this device succeeds in revealing the child's grasp of vocabulary, it is likely to destroy his interest in the topic as a whole. It is to be remembered that although vocabulary control is indispensable to the understanding of larger thought units or topics, it is nevertheless only a means to that end, and not an end in itself.

The thoughtful teacher will endeavor so to guide the child's silent reading as to necessitate his using his new vocabulary in ways that are more purposeful from the pupil's point of view. Problems which require the child to reflect upon large units in his reading may be so phrased as to involve his new vocabulary. He may be directed to constructive activities after reading which will

indirectly measure his vocabulary control—for example, he may be asked to model a lake-dwelling in clay.

Group discussion after a first reading, together with re-reading to verify ideas, frequently helps the teacher to know how well the children have dealt with their new vocabulary in reading. In addition, the discussion helps the less capable children to correct misunderstandings.

Should instruction in the meaning and use of certain words help children to add other words to their vocabularies? Included in any program of vocabulary instruction should be some provision for helping children to become self-critical with regard to new meanings. The child who says, "This paragraph doesn't make very good sense to me because I am not sure what some of the words mean," is well on the road to independent, rather than teacher-nurtured, vocabulary growth.

FINDING PROBLEMS WHILE READING

(Continued from page 96)

there was an attempt to acquaint the pupils directly with the facts and vocabulary of the poem—the location of the two towns, the pronunciation of certain words, and the like. That approach necessitates the preposterous assumption that pupils care enough about these facts to find a motive for taking the poem seriously. The positive approach was made with only the assumption that the pupils cared about something which could be turned to advantage in the reading, in this case, pets. What was interesting to the pupils was discovered by a skillful use of discussion of the merits of horses as pets, which aroused the children's experience and anticipation, so that when the poem was presented it

could fulfill a desire or solve a problem already raised for the young readers.⁹ In actual results with pupils, the negative approach led to a rating of 20 for the poem, while the positive approach led to a rating of 87.

After a problem has been raised and a motive aroused for finding the solution of it, there is the further need for training in the other seven steps of problem solving. Types of exercises for these steps have been suggested. This article has urged mainly that teachers improve a neglected technique — that of raising problems and of arousing strong motives for finding solutions. When this technique is adequate, problem solving itself can be attempted with hope of success.

⁹ Ibid., p. 74.

A Critical Summary of Selective Research*

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(Continued from March)

Cesander Paul Kl., "A study of Pupil Usage as a Factor in the Grade Placement of Certain Items of Punctuation" (A study of elementary pupil usage of punctuation items in theme-writing in grades 4, 6, and 8). Doctor's dissertation, College of Education, University of Iowa, Iowa City, Iowa. Directed by Dr. Harry A. Greene, July, 1930. Unpublished. Filed in Education Library.

Character of Research. 1. Analysis of pupil compositions for punctuation items. 2. Analysis of elementary language textbooks used by these pupils.

Problem. To determine the items of punctuation that children in grades 4, 6, and 8 use.

Limitations of Study. 1. The study is limited to grades 4, 6, and 8, but later tabulations for grades 5, 7, and 9 dovetail with his result. 2. The catalogue of punctuation skills is not sufficiently analytical, as later analysis shows. 3. Detailed checking of same types of data needs to be made against a criterion showing all possible variations. 4. The present sampling does not include all types of writing.

Procedure. 1. All the fourth, sixth, and eighth grade pupils of 14 school systems, including 20 schools varying in size from village to small city, and located in seven different states, wrote the compositions used in the study. Three themes were written by each pupil: one in narration, one in description, and one in exposition. The total number of compositions used was 2,466, these being the compositions written by pupils of normal I. Q. 2. The compositions were analyzed, using a criterion set up from Miss Florence Prehm's basic study of punctuation items. In each grade, units of 10,000 running words were blocked off until a total of over 300,000 had been checked. In order to discover what opportunity the pupils had to learn the various punctuation situations they tried to use, the language textbooks used by them were analyzed. This analysis was made to show the situations taught in each grade and the relative emphasis

*National Conference on Research in Elementary School English.

placed upon them.

Specific Findings and Conclusions. 1. Pupils in the fourth, sixth, and eighth grades attempted to use 118 different items of punctuation, 81 of which are common to all three grades. 2. Present instruction does not fully determine the usage of the pupil in regard to some of the items. 3. The error quotient for all usage in the fourth grade is 544; in the sixth grade, 449; and in the eighth grade, 425. The use of the semi-colon is most in error, while that of the period is least. 4. Fourth grade pupils omit punctuation as compared to their incorrect substitution for correct items in a ratio of 5 to 1; sixth grade, 4 to 1; and eighth grade, 3 to 1. 5. The dash, colon, and parenthesis are used very little; the exclamation and interrogation marks are not used frequently enough to justify their emphasis; and the brackets are not used at all.

Implications. 1. The educational significance of this study lies in its contributions to the revision of the course of study in language and the implied data it furnishes on the grade-placement of certain items of punctuation usage. 2. Needed changes in emphasis and placement are implied.

Coleman, J. H., "Written Composition Interests of Junior and Senior High School Pupils." *Contributions to Education*, Number 494. Teachers College, Columbia University, 1931. *Character of Research.* Classification of interests exhibited in compositions written upon topics of the pupils' own choosing.

Problem. 1. To survey topics pupils like to write about. 2. To investigate types of preferred discourses. 3. To determine relation of sex differences to interests. 4. To study interests among different grade groups.

Limitations of Study. 1. Thirty-six categories of interest were defined. 2. Ten types of discourse were studied: narration, description, exposition, argument, friendly letter, business letter, poetry, news article, editorial, and debate brief. 3. Interest in types of discourse was surveyed by means of a questionnaire to the pupils. 4. Pupils participating numbered 14,546, from

grades seven to nine, inclusive. Five cities in four states were included.

Procedure. 1. A check list of 36 categories of interests represented by composition titles was prepared. 2. 4,019 compositions were secured from the pupils on topics of their own choosing. 3. Each pupil was required to write three compositions, the title of each to be selected from suggested lists. With each of his themes, the pupil was requested to indicate on the respective designated list of titles the title he (a) liked best, (b) disliked most, and (c) disliked next most. In this phase of the study, 14,546 pupils in grades seven to twelve, inclusive, took part. 4. The topics liked and disliked, common to the sexes of all grades, were tabulated. A comparison of the results of the investigation was made with the reading interests reported by Jordan and by Washburn. 5. The pupils were requested to list their reasons for topic choices. 3,411 replies from the six grades were analyzed and classified into sixteen categories and arranged in rank order for the boys and for the girls of each grade. 6. During the course of the investigation, the pupils were requested to express their preferences relative to ten types of discourse on each of four questionnaire forms. 4,660 pupils indicated their first preference, the one they liked next best, the one they disliked most, and the one they liked next least. A rank order list of the written discourse preferences was prepared for each of the six grade levels. The reliability of the data was statistically determined.

Specific Findings and Conclusions. 1. Pupils, when free to select their own topics, exhibited major interest in adventure, sports, and travel. There was evidence of increasing interests from one grade level to another. Both sexes show a high degree of uniformity in their major interest. 2. No one topic was entirely liked or disliked. Both boys and girls liked topics on travel, adventure, outdoor activities, ethics, athletics and sports, personal experience, literature, humorous anecdotes, sympathy, animals, home life, pupil employment, and leisure activities. Their common dislikes were topics on sentiment, children, health, handwork, social problems, science, fairy tales, civics, proverbs, art, winning prizes, and machines. Boys liked topics on current events, machines, and famous people and disliked the subject of religion. The topic, historic events, was disliked by girls only; no topics were liked solely by girls. 3. The two reasons most frequently given by children for choosing their composition

titles are that they like the topic and that they have special knowledge about it. 4. The pupils ranked preferences for written discourse in following order: friendly letter, argument, description, and narration. Four dislikes were common to all grades, namely: poetry, business letter, editorial essay, and exposition.

Implications. The evidence from this exploratory study of interests indicates the desirability of allowing considerable latitude for choice of composition topics. Further research is needed to reveal "the effect of each topic or type of discourse upon facility and general merit in written composition."

Colvin, Stephen S., and Meyer, I. F., "Imaginative Elements in the Written Work of School Children" (A study of imaginal types in the written work of children in grades 5 to 12 inclusive). *Pedagogical Seminary*, XIII (March, 1906), pp. 84-93.

Character of Research. Analysis of the written work of school children with special reference to types of imagination.

Problem. To discover growth of imagination in school children and "its relation to other elements in their mental life."

Limitations of Study. 1. No statistical data were included in the printed report. 2. Informal methods were used in appraising the compositions. 3. Data were obtained from only one state.

Procedure. 1. Three thousand compositions were analyzed for simple forms of images including visual, auditory, tactile, pain, olfactory, gustatory, organic and muscular, and for more complex types of images including scientific, fairy story, nature myth, heroic, dramatic, religious and melancholic, and the like. The compositions were secured from Illinois school executives in response to a request for children's work that would be "entirely spontaneous and original." 2. The compositions were classified into six groups for excellence in each imagination type and also into six groups for excellence in mechanical elements. 3. Tabulations were made of the various imaginative elements and of the various mechanical elements.

Specific Findings and Conclusions (As stated by investigators): 1. In general, the imagination of school children showed a decline during the years studied. 2. The only type of imagination that shows a substantial growth is the visual. 3. At the onset of puberty there was a tendency for the "lower" types of imagery to disappear and

for the "higher" types to come into prominence. 4. The growth in feeling was constant but not rapid. 5. Logical power, like formal correctness, improved throughout the eight years. 6. The sense of humor of both boys and girls was of relatively low grade.

Implications. 1. Very little is done by modern education to cultivate the imagination. 2. The school hinders rather than helps "the deeper expression of the self." 3. The school largely ignores "the development of a higher sense of humor." 4. The school "tends toward the mechanical and formal rather than toward the spontaneous and vital" phases of education. 5. School work exerts a repressive influence on emotional behavior.

Fitzgerald, James A., "The Vocabulary, Spelling Errors, and Situations of Fourth, Fifth and Sixth Grade Children's Letters Written in Life Outside the School." (Study of usage relating to letter writing). Ph.D. Dissertation, College of Education, University of Iowa, Iowa City, Iowa. Directed by Dr. Ernest Horn. July, 1931. Unpublished. Filed in Education Library.

Character of Research. Analysis of children's letters.

Problem. 1. To determine the vocabulary of fourth, fifth and sixth grade children's letters written in life outside the school. 2. To discover the spelling errors of these children and to determine a difficulty list for spontaneous writing. 3. To find the situations in which children write letters in life outside the school.

Limitations of Study (As indicated by investigator). 1. Sampling (a) Not a good random sampling because of "linking" within communities. (b) Not a good representative sampling because most of the letters came from the Middle West. 2. No statistical statement of the reliability of the word counts was made. 3. A majority of the letters were written to contemporaries. 4. The business letters were somewhat artificial.

Procedure. 1. The data, collected through the schools of several states, consisted of 3,184 children's friendly letters written outside the school and received through mail, and 321 children's memory reproductions of real business letters. The data were sorted into fifty categories on the basis of age, grade, sex, place of school attendance, and geographical area. The frequencies of occurrence of words and errors were then tabulated. 2. Three types of available sources were

utilized in developing a form for the classification of the letter-writing situations: (1) courses of study and texts; (2) conferences with experts; and (3) letters written by children.

Specific Findings and Conclusions. 1. The percentage of spelling errors for the three grades was 4.4; for grade six, 3.4; for grade five, 4.2; and for grade four, 6.9. 2. Errors in the use of contractions and abbreviations were out of all proportion to the number of times the expressions were used. 3. Mastery of 148 different words would eliminate approximately 47 per cent of the spelling mistakes. 4. The content most commonly found in the social letters involved personal experiences, school experiences, objects, weather, and animals.

Implications. A survey of the situations in which social letters were written reveals both the actual practice and the present deficiencies in the letter writing of children.

Garbe, Caroline H., "An Experiment in Correlating English Composition with the Content Subjects" (A study of pupil progress resulting from the correlation of English with content subjects in the sixth grade). *Elementary School Journal*, XXXI (October, 1930), pp. 96-110.

Character of Research. An experimental study of the effect on expression when English is correlated with content subjects.

Limitations of Study. 1. Experiment did not utilize a control group. 2. No measure was obtained of fluency in relation to general excellence. 3. Error quotient technique was not employed in the computation of progress made in mastery of English mechanics. 4. No attempt was made to measure either the permanency of the learning or the extent to which the training transferred to expression situations outside the English class.

Procedure. 1. Compositions written early in the year were analyzed to discover points which needed instructional emphasis. 2. Content subjects were utilized as points of departure in the oral and written classroom work. 3. The classroom work, which extended over 238 half-hour periods, was devoted to the following activities: (a) oral composition; (b) written composition; (c) formal grammar; (d) class instruction in usage; (e) preparation for compositions; (f) teacher motivation; (g) pupil motivation; (h) formal instruction in spelling and handwriting; and (i) testing. 4. Class instruction both in grammar and in language usage was closely correlated with the composition work. 5. The

pupils were allowed considerable freedom in the choice of topics. 6. Instruction in the formal aspects of the work was individualized in large degree. 7. The progress of individual pupils in such matters as fluency, accuracy, and general appearance of manuscript was studied by means of a chart designed to show the results of instruction along these lines. 8. Progress in formal elements was appraised in terms of results attained on standardized tests and in terms of percentage of errors made in compositions written at the beginning and end of the school year. Fluency was determined by the number of words used in initial and final test compositions.

Specific Findings and Conclusions. 1. The pupils manifested marked growth in fluency of expression, as indicated (a) by the number of words used in initial and final compositions and (b) by the number of compositions voluntarily written. During the last fifteen weeks of the experiment, one group of 18 pupils wrote 125 stories, and during the last nine weeks another group of 17 pupils wrote 92 stories. 2. There was a marked reduction in the percentage of errors made in the initial and final compositions. At the beginning of the year, the percentage of errors per pupil ranged from 0.5 to 33; at the end of the year the range was 0.0 to 9.6.

Implications. 1. Children may be expected to write freely when they are encouraged to do so. 2. Possibilities for making errors in the mechanics of usage are likely to increase as pupils develop more mature and complicated forms of expression. 3. Children should be taught to view the conventions of language and grammar merely as means of conveying ideas.

Goldsmith, Anna Marie, "An Analysis of Modifiers in the Oral Language Usage of Certain Primary School Children" (Analysis of modifiers in the speech of primary school children). Master's Thesis, University of Iowa, Iowa City, Iowa, 1932. Directed by Doctor Harry A. Greene.

Character of Research. An analytical study of modifiers.

Problem. 1. To determine what classes of adjectives and adverbs are used in the speech of primary school children in certain classroom situations. 2. To determine the relative frequency of use of the different classes of adjectives and adverbs. 3. To determine what percentage of the total words analyzed were adjectives and adverbs.

Limitations of Study. 1. There was an in-

adequate sampling of data. 2. Pupils represented a select and limited group. 3. The teachers were above average in ability.

Procedure. 1. The oral language classroom discussions of 115 pupils were recorded by means of the Iowa Electric Recording Apparatus. 2. The total words analyzed in each grade were divided into units of 2,500 words each and the results of each unit were tabulated separately except for the junior primary data.

Specific Findings and Conclusions (As indicated by investigator): 1. About one-fourth of the oral expressions consisted of adjectives and adverbs. 2. Adjectives form 13.5 per cent of the total word usage, and adverbs, 11.6 per cent. 3. Adverbs of time, place, degree, and negation constitute 64 per cent of all adverbial usage. 4. Articles, pronominal and descriptive adjectives constitute 71 per cent of all adjective usages.

Implications. 1. The results of studies of this type should be given consideration in the preparation of textbooks and courses of study. 2. Teachers can do much to stimulate good English when they are acquainted with the language forms which children use.

Greene, Harry A., "The Drill Content of Certain Language Tests and Practice Exercises." A paper presented at the Atlantic City meeting of the American Educational Research Association, February 22, 1930. *The Elementary English Review*, Volume VII, Number 7 (September, 1930, pp. 163-169).

Character of Research. Analysis of fifteen elementary language tests and eighteen drill booklets.

Problem. To determine the relationship between and validity of tests and corrective practices as they apply to specific language skills.

Limitations of Study. 1. Language presents no definite body of subject matter. 2. However representative the sampling may have been, it was not all-inclusive. 3. Mere counting of word forms is not sufficiently reliable as an index of the validity of a test. 4. Probably no list such as the *Horn Basic Writing Vocabulary* is quite valid as a criterion of the social utility of words. 5. Significance of the study is decreased because no one class will use more than one set of exercises, whereas the paper presents a composite study of eighteen sets.

Procedure. 1. Fifteen tests were chosen for analysis, based on the criteria that they (a) be standardized; (b) be adapted to the needs of grades three to eight; (c) measure two or more

language abilities; (d) be objective; and (e) be of date 1919 or later. 2. Analytical tables showing frequencies of occurrence of word forms and frequencies of each language situation were constructed for tests and drill books and comparisons made to determine the overlap. Tables were also constructed to show the social utility of word forms tested and provided for drill (based on comparisons with the Horn List). Finally, a check was made on the actual words found in either the test list or the drill booklets (in the latter, provided the word occurs three or more times), but not in both, and also included in the first thousand of the Horn List.

Specific Findings and Conclusions. 1. Correlation among language tests and drills as to specific word forms and skills is very low. 2. Comparison of these tabulations shows a definitely high correlation between tests and practice exercises as to grammatical forms of words. (a) But this does not imply that the same skills or items are receiving a proportionate emphasis. 3. Comparison of test word forms with the Horn Basic Writing Vocabulary shows a very poor selection of words, from the standpoint of social utility. The situation is similar, but not so serious, in the case of drill exercises. 4. About 30 per cent of the words found in tests only and about 65 per cent of those found in drill exercises only are among the first two thousand in the Horn List.

Greene, Harry A. "Measurement of Linguistic Organization in Sentences" (A study in test construction). *University of Iowa Studies in Education*, Volume II, Number 4. Iowa City, Iowa.

Character of Research. Analysis of children's responses to test items requiring the rearrangement of related ideas in jumbled order into complete sentences.

Problem. To devise and standardize tests that will measure sentence organization ability.

Procedure. 1. Seventy test exercises were prepared which contained a limited number of ideas presented in jumbled order and which required the pupil to reorganize these combinations into complete sentences. Care was taken "to choose sentences the meaning of which would remain clear when they were removed from the context." 2. The test exercises were given to 1,634 pupils in grades 3 to 8 in a number of public schools. 3. The test material was evaluated "by using the percentage of children solving a given exercise correctly as a basis, and then

placing the exercises in their relative positions on a lineal scale by the use of the normal curve of probability." 4. In preparing the two forms of the test, an attempt was made to pair off the exercises in terms of their established value. The test items were "selected so that as nearly as possible the two forms comprising ten exercises each would have the same total value." Moreover, the two forms were prepared so as to "have closely the same inter-exercise interval." 5. The tests were arranged so as to give a measure of both rate and power.

Specific Findings and Conclusions. 1. Pupils manifested steady progress from grade to grade in ability to determine logical relations within sentences. 2. Fairly high correlations were found between sentence organization scores and composition scores as measured by the Hillegas scale. Correlation for three groups of pupils were .40, .54, and .54, respectively. 3. A moderately high relation was found between general intelligence and ability in sentence organization, the correlations being .50 and .405 for groups of seventy-one and eighty-three pupils, respectively.

Implications. 1. Careful analysis is indispensable to efficient teaching and satisfactory measurement of learning products. 2. Teaching of language usage can be greatly improved by means of tests which make it possible to isolate and measure the various elements comprising language ability. 3. Skill in sentence organization is an important factor in composition ability. 4. Composition scales measure only general merit, and hence do not isolate and measure the specific elements involved in expression.

Guiler, W. S. "Analysis of Children's Writings as a Basis for Instruction in English" (An analytical study of language usage). *Journal of Educational Method*, V (February, 1926), pp. 259-64.

Character of Research. Analysis of the free writings of children in grades 2 to 9, inclusive.

Problem. 1. To discover the mechanical skills in written English needed by children in their attempts at free self-expression. 2. To discover the grade levels at which the development of these skills should be sought.

Limitations of Study. 1. The analysis covered only a limited number of free writings. 2. Findings could be considered as only tentative; however, it is probably true that they pointed to general tendencies.

Procedure. 1. Request was made of a number

of school administrators and supervisors for the following types of children's free writings: (a) friendly letters, (b) narratives of interesting personal experiences, and (c) descriptions of some things which the children felt that they could do pretty well. Care was taken to see that the writings were obtained from children whose teachers placed the major emphasis in the composition work on fluency and spontaneity of expression. 2. 1,731 writings were received from many sections of the country. These were distributed over the school grades as follows: Grade 2, 64; Grade 3, 159; Grade 4, 192; Grade 5, 373; Grade 6, 347; Grade 7, 209; Grade 8, 245; Grade 9, 142. 3. The writings were subjected to a detailed statistical analysis for the discovery of language uses. The investigation was concerned with language needs and not with language faults.

Specific Findings and Conclusions. 1. Most of the children's needs for capitalization and punctuation usage were encountered by the time they had reached the sixth grade. 2. Most of the children's needs for capitalization in grades 2 to 8 arose in connection with a few usages. Four capitalization usages accounted for more than three-fourths of the total needs. 3. Most of the children's needs for punctuation in grades 2 to 8 involved only a few usages. Three punctuation usages accounted for more than two-thirds of the total needs. 4. The greater complexity of sentence structure in the writings of children in the upper grade levels revealed a need for certain punctuation usages that did not appear in the writings of lower grade children.

Implications. Analysis of children's attempts at free self-expression should be helpful in discovering (a) the ends of conscious training in the mechanics of English expression, and (b) the time in the learner's life when the various mechanical skills should be developed. The results of the analysis should also prove helpful in determining both the objectives and the content for diagnostic tests and remedial exercises for various grade levels.

Hwang, Pu, "Errors and Improvement in Rating English Compositions by Means of a Composition Scale." *Contributions to Education*, Number 417. Teachers College, Columbia University, 1930.

Character of Research. Experimental appraisal of composition scale ratings.

Problem. To ascertain the amounts of variable error and systematic error in rating English compositions.

Limitations of Study. 1. Seventy-four judges, who had had no previous experience in rating English compositions, were selected. 2. The investigator had no direct supervision over the rating of the compositions. 3. The effect of the judges' familiarity with the themes as a result of rating the theme first subjectively then objectively was not controlled.

Procedure. 1. 748 stories were written by 374 pupils from grades four to nine, inclusive. An additional 24 stories were written by boys from grades ten to twelve. 2. Eighty of the themes written by forty pupils selected at random from grades four to twelve, were divided into four sets of twenty each, and designated as a, b, c, d themes. (a) Themes written on similar topics, showing a narrow range of quality. (b) Themes written on similar topics, showing a wide range of quality. (c) Themes written on different topics, showing a narrow range of quality. (d) Themes written on different topics, showing a wide range of quality. Sets a and c were written by one group of pupils; sets b and d by another group. 3. The 74 judges rated each of the eighty themes three times, using four kinds of order. 4. The compositions were rated by means of the Hudelson English Composition Scale and the Van Wagenen Narration Scale. 5. The systematic error and variable error of each judge was computed. 6. The amount of time spent for rating and the amount of improvement in rating were calculated.

Specific Findings and Conclusion. 1. The use of an objective standard reduced the systematic errors much more than the variable errors. 2. Rating themes by a general merit scale was more nearly reliable than the rating of themes according to their special merits. 3. Thought content proved to be the easiest special merit to rate; structure ranked second; and mechanics proved to be the most difficult to rate. 4. The time required to rate the themes by the Hudelson Scale compared favorably with the time required for the subjective ratings. The special merit scale required one-third more time than the general merit scale. 5. The undirected practice in rating by means of an objective scale resulted in little improvement. Such practice reduced the systematic error more than the variable error. 6. The unreliability of scoring was greater than the unreliability of the pupils' performances.

Kimmel, William G., "Testing Pupil Progress in Community Life English" (An experimental study in composition with 25 eighth grade

pupils). *Studies in Secondary Education*, II, pp. 33-69. Supplementary Educational Monographs, Number 26. University of Chicago, 1925.

Character of Research. An evaluation of certain instructional procedures.

Problem. To discover the effect on pupil progress in composition of placing emphasis (a) on factual background, and (b) on individual pupil responsibility for correction and appraisal.

Limitations of Study. 1. The study included only twenty-five pupils. 2. No check was made on permanency of learning. 3. The study did not utilize a control group.

Procedure. 1. The experiment extended over a period of seventeen weeks and involved twenty-five eighth grade pupils whose average I. Q. was 116. 2. Four units of a course in "Community Life English" were used to provide a content background for both oral and written composition. 3. Before writing the first drafts of their compositions, the pupils spent considerable time assembling materials and planning their papers. 4. The pupils were held responsible for appraising their own work for language weaknesses. 5. Re-writing of papers was required when they had not reached a reasonable standard. 6. Pupils encountering unusual difficulty with particular elements of usage were given directed training along lines revealed by an analysis of their weaknesses. 7. Improvement was measured by means of tests given at the beginning and the end of the experiment.

Specific Findings and Conclusions. 1. The number of pupils who were required to rewrite their themes was reduced from sixteen in February to four in June. 2. On the Briggs English Form Test, Alpha, improvement in punctuation amounted to 59 per cent. 3. On the Trabue Completion Test Language Scale the improvement represented more than a year of growth. 4. On the Hudelson Maximal Composition Ability Scale the class improvement represented a growth of several years in composition ability.

Implications. 1. Expressional ability is the product of one's total education and not of the English classroom alone. 2. Too much stress on formal correctness may set up inhibitions to spontaneous expression. 3. Pupils may be trained to assume full individual responsibility for appraising the first drafts of their compositions and for preparing final drafts free from gross language errors. 4. Holding pupils responsible for the detection and correction of er-

rors provides for sustained motivation by setting up a challenge for good work.

Leonard, Sterling Andrus, University of Wisconsin. *Current English Usage*. Initiated by Leonard, brought to completion by several others. English Monographs, No. 1, The National Council of Teachers of English. Inland Press. Chicago, 1932.

Character of Research. Analysis of answers to questionnaires on usage.

Problem. 1. To determine the trend of English usage and its relation to the rules currently taught in the schools. 2. To secure data on diversity in usage with a view to providing more effective control. 3. To set up general criteria upon which answers to questionnaires were based.

Limitations of Study. 1. Sampling inadequate—preponderance of evidence from two groups only, educators and publishers. 2. Questionnaires not exhaustive of problems in divided usage. 3. Judges too few in number, however well qualified they may be. 4. Tabulated results reveal a number of inconsistencies.

Procedure. 1. Two questionnaires were prepared and submitted to the judges selected. The first consisted of 81 examples of divided usage in punctuation; it was submitted to publishers. The second consisted of two ballots. One contained 102 expressions of questionable standing, grammatically, and was submitted to a group of linguists, authors, members of The National Council of Teachers of English, editors, members of the Modern Language Association, teachers of speech, and business men. The other composed of 130 additional expressions, went to a highly selected group only (17 linguists, 32 members of the Council). In the case of the second questionnaire, the authority of the linguists was always preferred. 2. The answers to the punctuation questionnaire were analyzed and classified by examples to show trends in usage as follows: (a) cases of strict requirement of one or the other usage, except where preference only was requested by the questionnaire; (b) comment on its significance and relation to other votes cast; (c) tabulation of the whole vote; (d) further discussion of more technical aspects of the whole vote. 3. The grammar items were analyzed and classified in two ways: (a) as established (approved by at least 75% of the judges), disputable (25% to 75% approval), and illiterate (approved by fewer than 25%); and (b) by rank among the

230 usages from 1 (most complete approval) to 230 (most complete disapproval).

Specific Findings and Conclusions. 1. There are relatively few cases of "required" punctuation. 2. There is a definite trend toward less and lighter punctuation. 3. There is a tendency to avoid certain formally grammatical usages that seem pedantic or finical (*an* before initial slightly aspirate *h*, etc.). 4. Some expressions now held to be in good usage are condemned by most texts and handbooks. 5. The consideration of clarity alone determines point-

ing and grammar in current usage.

Implications. 1. Punctuation and grammar should be adapted to the meaning; no other consideration is necessary. In teaching these phases of English, however, it is well to follow the rules suggested by a predominant *required*, *preferred*, or *established* vote in this study—this out of consideration for the possible future difficulties of the pupil. 2. A teaching procedure that concentrates on *sentence sense* will obviate the need for much instruction in punctuation and grammar.

(To be continued)

SILENT READING DURING THE NEXT DECADE

(Continued from page 93)

in teaching silent reading. In the decade that lies ahead of us, increasing attention must be given to a series of challenging problems suggested by the terms interpretation, application and modification of personality. This statement should not be interpreted to mean that the more routine habits involved in rate of reading and in comprehension may be neglected. They form the foundation on which a broader program of reading in-

struction should be built. I feel confident that we shall continue to expand and strengthen this foundation in the future. In addition, the guidance provided in the class room should result in rapid growth in power of interpretation, in ability to apply what is read in the solution of personal and social problems and in desirable changes in the personality of the reader.

LEFT-HANDEDNESS AND REVERSALS IN READING

(Continued from page 98)

reversals of the sequence of words.

The 757 reversals made by the right-handed children were as follows: 201, total reversals; 154, partial reversals; 392 letter reversals; and 1 reversal of the

sequence of words.

The high number of letter reversals is due to Individual Test 3 in which only reversals of the letter reversal type could be made.

Editorial

Higher Levels of Achievement in Reading

ONE who traces, in the past numbers of *The Elementary English Review*, the history of silent reading in the elementary grades during the last decade will feel much gratification in the results achieved. Future attainments in this phase of English are foreshadowed in articles presented in this number, and the indications are that readers of *The Review* will, during the next ten years, see recorded in its pages pedagogical accomplishments of an importance difficult now fully to define.

Although the methods employed during the past ten years have served admirably to bring reading to its present level, the effective functioning of the ability to read has not yet been attained. There is a startlingly low achievement in reading on the part of many high school and college students. A simple *précis* test given any English class of thirty-five or forty students in high school or first year college invariably discloses in the group a high degree of inadequacy in reading. At the lower levels, this consists in lack of comprehension and feeble ability; in the upper levels, there is a lack of power to interpret reading matter.

The problem has apparently been one of arrested development. As Dean Gray points out, "far too frequently pupils have been required to comprehend what they read with only sufficient thoroughness to recognize the various elements of meaning in the order in which they appear in a passage." Education must emphasize fundamental processes repeatedly as higher levels of maturity are attained. Reading instruction, which has commonly been discontinued at about the sixth grade, should then become continuous, and involve, as Dean Gray says,

"interpretation, application, and the modification of personality." As things have been, with training from these several viewpoints completely neglected, the high school and college student asked to interpret or to apply in a practical way reading material brought to hand, is at loss to give the matter more than elementary treatment. His sixth grade techniques no longer give him mastery. Just as more and more difficult subject matter is presented in the advancing curriculum, and just as growing maturity releases or strengthens latent abilities, so must there be progressive training and scientifically guided instruction in reading.

The points discussed by Dr. Betts from the standpoint of kindergarten and first grade children, with some application to upper grade pupils, should perhaps be applied to corrective work in reading in the eighth grade and above. It may be assumed that in the past, the extreme cases of disability attributable to visual defects have resulted in non-readers, or in poor readers. Social pressure, will-power, and personality may have been influences making the handicapped reader persevere despite his disabilities. In addition, therefore, to the lines of instruction pointed out by Dean Gray which should be made continuous throughout the educational period, there should be, in the case of pronounced disability, the same kind of causal analysis in the upper grades as Dr. Betts has used so effectively for beginners.

Teachers must look forward to the time when there will be the same concern to overcome handicaps and to strengthen ability in reading in the upper, as in the primary grades.

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By

HAROLD T. EATON, A. M.

Head of the Department of English, Brockton (Mass.) High School

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